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EXAMINER

FORMAN, BETTY J

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/993,353

Applicant(s)

ELLSON ET AL.

Examiner

BJ Forman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 11-50 and 91-102 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-50 and 91-102 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 13 November 2001 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                            | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5, 6</u> . | 6) <input type="checkbox"/> Other: _____                                    |

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**DETAILED ACTION**

***Priority***

1. This application is a continuation-in-part of Application 09/712,818, now abandoned. It is suggested that the specification be amended to update the status of the '818 application.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-9, 11-50 and 91-102 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 1-9, 11-50 and 91-102 are indefinite in independent claims 1 and 45 for the recitations "no less than about 1 kilobyte" because "no less than" and "about" encompass different ranges i.e. "about" encompasses more or less than 1 kilobyte but "no less than" encompasses 1 kilobyte and more than one kilobyte. Because the two recitations encompass different ranges, it is unclear what limitations are being claimed. It is suggested that Claims 1 and 45 be amended to clarify.

b. Claim 42 is indefinite for the recitation "an additional magnetic medium" because the recitation lacks proper antecedent basis in claim 1 which does not recite a magnetic medium. Therefore, it is unclear whether the at the magnetic medium is a second magnetic medium or

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whether the device of Claim 1 further comprises a magnetic medium. It is suggested that Claim 42 be amended to clarify.

c. Claim 43 is indefinite for the recitation "an additional optical medium" because the recitation lacks proper antecedent basis in claim 1 which does not recite an optical medium. Therefore, it is unclear whether the at the optical medium is a second optical medium or whether the device of Claim 1 further comprises a optical medium. It is suggested that Claim 43 be amended to clarify.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1, 5-9, 11-17, 21-22, 30-32, 37-43, 45, 47-49, 91-92, 96-102 are rejected under 35 U.S.C. 102(e) as being anticipated by Virtanen (U.S. Patent No. 6,342,349, filed 21 July 1998).

The claims are broadly drawn to a device comprising a substrate and machine readable information. The claims are replete with broad terms and phrases e.g. "represented by", "relating to", "associated with", "capable of", "with respect to". The courts have stated that claims must be given their broadest reasonable interpretation consistent with the specification *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997); *In re Prater*,

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415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969); and *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) (see MPEP 2111). The claims are given the broadest reasonable interpretation consistent with the broad claim language as detailed below.

Regarding Claim 1, Virtanen discloses a device comprising a substrate having a plurality of moieties attached to a surface thereof and containing machine readable information relating to the moieties wherein the information is physically associated with the substrate (Abstract and Column 5, lines 14-27) wherein the information is on a CD or DVD which represents no less than about 1 kilobyte of data (Column 4, lines 13-35). Therefore, the information on the DC or DVD is represented by no less than about 1 kilobyte as claimed.

Regarding Claim 5, Virtanen discloses the device wherein the information contains the identity of at least one moiety attached to the surface (Column 14, lines 35-67 and Column 45, lines 59-67).

Regarding Claim 6-8, Virtanen discloses the device wherein the information is analyte-specific information (Column 15, lines 1-22) and analyte-specific information "relates" to analyte attachment processes, analyte experimental conditions and analyte experimental results. As such, Virtanen discloses the device as claimed.

Regarding Claim 9, Virtanen discloses the device wherein the information is digital (Column 3, lines 13-27).

Regarding Claims 11-12, Virtanen discloses the device wherein the information is on a CD or DVD which represents about 1 to 650 megabytes (Column 4, lines 13-35. Therefore, the information on the DC or DVD is represented by about 1 to 650 megabytes as claimed.

Regarding Claim 13, Virtanen discloses the device wherein the information is in a format that is optically readable (Column 5, lines 23-27).

Regarding Claim 14, Virtanen discloses the device wherein the information is in a format that is readable by a fluorescence reader (Column 38, line 65-Column 40, line 58).

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Regarding Claim 15, Virtanen discloses the device wherein the information is in a format that is readable by a phosphoimager (Column 38, line 65-Column 40, line 58).

Regarding Claim 16, Virtanen discloses the device wherein the information is in a format that is readable by a compact disc reader (Column 5, lines 13-22).

Regarding Claim 17, Virtanen discloses the device wherein the information is in a format that is readable by a DVD (Column 5, lines 13-22).

Regarding Claim 21, Virtanen discloses the device wherein the information is magnetically readable (Column 38, line 65-Column 39, line 60 and Column 40, lines 17-58).

Regarding Claim 22, Virtanen discloses the device wherein the information is electronically readable (Column 38, line 65-Column 39, line 60 and Column 40, lines 17-58).

Regarding Claim 30, Virtanen discloses the device wherein the moieties comprise an array of biomolecules (Claim 8 and 9).

Regarding Claim 31, Virtanen discloses the device wherein the biomolecules are nucleotidic or peptidic (Claim 8 and 9).

Regarding Claim 32, Virtanen discloses the device wherein the biomolecules are oligomeric or polymeric (Claim 8 and 9).

Regarding Claim 37, Virtanen discloses the device wherein the substrate comprises a disk (Column 5, lines 14-27).

Regarding Claim 38, Virtanen discloses the device wherein the substrate comprises a tape i.e. strip (Column 7, lines 51-65).

Regarding Claim 39, Virtanen discloses the device wherein the substrate comprises a well plate (Column 7, lines 51-65).

Regarding Claim 40, Virtanen discloses the device wherein the substrate comprises a slide (Column 7, lines 51-65).

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Regarding Claim 41, Virtanen discloses the device wherein the substrate comprises a plurality of surfaces arranged in a three-dimensional structure to which moieties are attached i.e. well plate (Column 7, lines 51-65).

Regarding Claim 42, Virtanen discloses the device wherein the substrate comprises an additional magnetic medium i.e. labeled moieties (Column 40, line 59-Column 41, line 7).

Regarding Claim 43, Virtanen discloses the device wherein the substrate comprises an additional optical medium i.e. labeled moieties (Column 40, line 59-Column 41, line 7).

Regarding Claim 45, Virtanen discloses a device comprising a substrate adapted for attachment to a plurality of moieties attached to a surface thereof and containing machine readable information relating to the moieties wherein the information is physically associated with the substrate (Abstract and Column 5, lines 14-27) wherein the information is on a CD or DVD which represents no less than about 1 kilobyte of data (Column 4, lines 13-35). Therefore, the information on the DC or DVD is represented by no less than about 1 kilobyte as claimed.

Regarding Claim 47, Virtanen discloses the device wherein the attachment of moieties is detectable through a signal having the same form as the machine readable information i.e. digital (Column 13, lines 30-42).

Regarding Claim 48, Virtanen discloses the device wherein the signal form is fluorescence (Column 13, line 66-Column 14, line 18 and Column 40, line 60-Column 41, line 28).

Regarding Claim 49, Virtanen discloses the device wherein the signal form is radioactivity (Column 13, line 66-Column 14, line 18 and Column 40, line 60-Column 41, line 28).

Regarding Claim 91, Virtanen discloses the device wherein the information is contained in a discrete region of the substrate surface having the plurality of moieties (Column 15, lines 12-15).

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Regarding Claim 92, Virtanen discloses the device wherein the information is contained in a discrete region of the substrate surface having the plurality of moieties (Column 15, lines 12-15).

Regarding Claim 96, Virtanen discloses the device wherein the information and the attached moieties exhibit positional correspondence (Column 9, lines 55-59 and Fig. 11C).

Regarding Claim 97, Virtanen discloses the device wherein the substrate has a radial mass distribution that is symmetric about an axis perpendicular to the plane of the substrate (Column 9, lines 44-65 and Fig. 11).

Regarding Claim 98, Virtanen discloses the device wherein the substrate is in the form of a disk (Column 7, lines 51-65).

Regarding Claim 99, Virtanen discloses the device wherein the information is contained in a computer microchip i.e. silicon chip (Column 7, lines 56-59).

Regarding Claim 100, Virtanen discloses the device wherein the information is stored in a medium capable of emitting radiation (Column 13, line 66-Column 14, line 47).

Regarding Claim 101, Virtanen discloses the device wherein the radiation is electromagnetic radiation (Column 13, line 66-Column 14, line 47 and Column 40, line 60-Column 41, line 28).

Regarding Claim 102, Virtanen discloses the device wherein the radiation is a fluorescent medium (Column 13, line 66-Column 14, line 47 and Column 40, line 60-Column 41, line 28).



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***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-4, 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Virtanen (U.S. Patent No. 6,342,349, filed 21 July 1998) in view of Hammock et al (U.S. Patent No. 6,395,562, filed 4 September 1998).

Regarding Claims 2-4, Virtanen discloses the device comprising a substrate having a plurality of moieties attached to a surface thereof and containing machine readable information relating to the moieties wherein the information is physically associated with the substrate (Abstract and Column 5, lines 14-27) wherein the information is on a CD or DVD which represents no less than about 1 kilobyte of data (Column 4, lines 13-35). Therefore, the information on the DC or DVD is represented by no less than about 1 kilobyte as claimed. Furthermore, Virtanen teach the information encompasses various types of information relating to the attached moieties including patient information, diagnostic information, assay information and interpretive information (Column 15, lines 1-22) which clearly suggests that the information includes customer information, secure information and shipping and/or billing information. Furthermore, Hammock et al who teach a similar device comprising a substrate and readable information also teach that the information includes various types of information relating to the attached moieties (Column 2, lines 23-25, Column 3, lines 15-18 and 44-64). This too suggests that the information relating to the moieties includes customer information, secure information and shipping and/or billing information.

However, the courts have stated that non-functional descriptive material does not distinguish a claimed invention over the prior art.

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Nonfunctional descriptive material cannot render nonobvious an invention that would have otherwise been obvious. Cf. *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983) (when descriptive material is not functionally related to the substrate, the descriptive material will not distinguish the invention from the prior art in terms of patentability). Common situations involving nonfunctional descriptive material are: a computer-readable storage medium that differs from the prior art solely with respect to nonfunctional descriptive material, such as music or a literary work, encoded on the medium, See MPEP 2106. A combination including printed matter and structure wherein the features of structure are old and the relationship of the printed matter to the structure is old, so that any novelty is in the meaning or significance of the words used in the printed matter, is not patentable as a manufacture in the sense of 35 U.S.C. 101". *Boyle et al. v. Ladd*, 138 USPQ 289 (D.C.D.C. 1963); *Ex parte Gwinn, Jr.*, 112 USPQ 439 (1955); *Conover v. Coe*, 69 App. D.C. 144, 99 F.2d 377, 38 USPQ 309 (1938), and *In re Russell*, 18 CCPA 1184, 48 F.2d 668, 9 USPQ 181 (1931).

Therefore, because the courts have stated that nonfunctional descriptive material encoded on a medium does not distinguish an invention from the prior art and because the prior art teaches the claimed structural components and suggests the instantly claimed customer identity information, secured information and shipping and/or billing information. The instantly claimed devices of Claims 2-4 are obvious in view of the teachings of *Vertanen* and *Hammock et al.*

Regarding Claims 33-36, *Vertanen* utilizes the surface for spatially resolved assays (Column 14, line 53-Column 15, line 22) but is silent regarding the density of moieties on the surface. However, *Hammock et al* teaches the similar device wherein the surface comprises moiety arrays of  $100\mu\text{ m}^2$  which encompasses the claimed about 1,000,000 moieties/ $\text{cm}^2$  (Column 5, lines 60-65 and Claim 7) and wherein the dimension is particularly desirable for spatially resolved assays. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the moiety dimension of *Hammock et al* to the surface of *Vertanen* and to attach about 1,000,000 moieties per square centimeter thereby providing for spatially resolved assays as taught by *Hammock et al* (Column 5, lines 60-65) and as desired by *Vertanen* (Column 14, line 53-Column 15, line 22)

8. Claims 1, 2-9, 11-13, 18-27, 31-32, 37, 39-40, 42-48, 50, 91-95 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nova et al. (U.S. Patent No. 6,284,459 B1, filed 5 September 1996) in view of Virtanen (U.S. Patent No. 6,342,349, filed 21 July 1998).

Regarding Claim 1, Nova et al. disclose a device comprising a substrate having a plurality of molecule moieties attached to a surface thereof and machine-readable information relating to the molecular moieties wherein the information is contained in a discrete region of the substrate that is noncoplanar with respect to the surface having the plurality of moieties attached thereto (Column 42, lines 46-67 and Fig. 26-27) wherein the machine-readable information contains information relating to the molecule identity, their process of preparation, their batch number, category, physical properties and chemical properties (Column 8, lines 42-47) wherein the substrate comprises a disk i.e. silicon chip (Column 19, line 41-Column 20, line 1). Nova et al are silent regarding the substrate containing no less than 1 kilobyte of machine readable information. However, machine readable disk substrates comprising no less 1 kilobyte of data were well known in the art at the time the claimed invention was made as taught by Virtanen (Column 4, lines 13-35) who teach that the that disk device provides for high density information and analyte detection utilizing disk readers known in the art (Column 5, lines 14-27 and Fig. 11). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the more than one kilobyte of data taught by Vertanen to the disk of Nova et al for the obvious benefits of providing a large amount of data readable utilizing readily available disk readers as taught by Vertanen (Column 5, lines 14-27).

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Regarding Claims 2-4, Nova et al. disclose the device comprising machine-readable information i.e. OMD (Column 19, lines 31-40 and Column 42, lines 46-67). Virtanen teach a similar device comprising a disk and machine readable information wherein the information encompasses various types of information relating to the attached moieties including patient information, diagnostic information, assay information and interpretive information (Column 15, lines 1-22) which clearly suggests that the information includes customer information, secure information and shipping and/or billing information.

However, the courts have stated that non-functional descriptive material does not distinguish a claimed invention over the prior art. Because the courts have stated that nonfunctional descriptive material encoded on a medium does not distinguish an invention from the prior art and because the prior art teaches the claimed structural components and suggests the instantly claimed customer identity information, secured information and shipping and/or billing information. The instantly claimed devices of Claims 2-4 are obvious in view of the teachings of Nova et al. and Vertanen.

Regarding Claim 5, Nova et al. disclose the device wherein the machine-readable information comprises the identify of at least one of the moieties attached to the surface (Column 8, lines 42-47).

Regarding Claim 6, Nova et al. disclose the device wherein the machine readable information comprises information relating to a process by which the moieties are attached i.e. process of preparation (Column 8, lines 42-47).

Regarding Claim 7, Nova et al. disclose the device wherein the machine-readable information comprises information relating to experimental conditions (Column 73, lines 40-54).

Regarding Claim 8, Nova et al. disclose the device wherein the machine-readable information comprises information relating to experimental results (Column 73, lines 40-54).

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Regarding Claim 9, Nova et al. disclose the device wherein the machine-readable information is digital (Column 73, lines 45-50).

Regarding Claims 11-12, Nova et al. are silent regarding the substrate containing no less than 1 megabyte (Claim 11) and about 1 to 650 megabytes (Claim 12) of machine-readable information. However, machine readable disk substrates comprising 1 to 650 megabytes of data were well known in the art at the time the claimed invention was made as taught by Virtanen (Column 4, lines 13-35) who teach that the disk device provides for high density information and analyte detection utilizing disk readers known in the art (Column 5, lines 14-27 and Fig. 11). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the megabyte of data taught by Vertanen to the disk of Nova et al. for the obvious benefits of providing a large amount of data readable utilizing readily available disk readers as taught by Vertanen (Column 5, lines 14-27).

Regarding Claim 13, Nova et al. disclose the device wherein the machine-readable information is optically readable (Column 9, lines 3-13).

Regarding Claim 18, Nova et al. disclose the device further comprising additional information in a barcode format (Column 39, lines 39-56).

Regarding Claim 19, Nova et al. disclose the device wherein the bar code reader is one-dimensional bar code reader (Column 41, lines 5-13 and 29-44).

Regarding Claim 20, Nova et al. disclose the device wherein the bar code reader is two-dimensional bar code reader (Column 41, lines 5-13 and 29-44).

Regarding Claim 21, Nova et al. disclose the device wherein the machine-readable information is magnetically readable (Column 41, lines 45-47).

Regarding Claim 22, Nova et al. disclose the device wherein the machine-readable information is electrically readable (Column 73, lines 45-50).

Regarding Claim 23, Nova et al. disclose the device further comprising human readable information i.e. orientation indicators (Column 43, lines 20-29).

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Regarding Claim 24, Nova et al. disclose the device wherein the attached molecular moieties are protected i.e. screen or mesh (Column 42, lines 46-49 and 61-64).

Regarding Claim 25, Nova et al. disclose the device further comprising a protective layer over the molecular moieties i.e. screen or mesh (Column 42, lines 46-49 and 61-64).

Regarding Claim 26, Nova et al. disclose the protective layer is removable i.e. screen or mesh (Column 42, lines 46-49 and 61-64).

Regarding Claims 27, Nova et al. disclose the device further comprising a protective layer over the molecular moieties wherein the protective layer is composed of a material that allows only selected matter to be transmitted there through i.e. screen or mesh (Column 42, lines 46-49 and 61-64). The functional language "allows only selected matter to be transmitted there through" does not further limit the structural components of the device. Therefore, Nova et al. disclose the device as claimed.

Regarding Claim 30, Nova et al. disclose the device wherein the moieties comprise an array of biomolecules (Column 98, lines 30-60).

Regarding Claim 31, Nova et al. disclose the device wherein the biomolecules are nucleotidic (Column 98, lines 30-60).

Regarding Claim 32, Nova et al. disclose the device wherein the biomolecules are oligomeric (Column 98, lines 30-60).

Regarding Claim 37, Nova et al. disclose the device wherein the substrate comprises a disk i.e. silicon chip (Column 19, line 41-Column 20, line 1).

Regarding Claim 39, Nova et al. disclose the device wherein the substrate comprises a well plate (Column 19, line 41-Column 20, line 1).

Regarding Claim 40, Nova et al. disclose the device wherein the substrate comprises a glass slide (Column 19, line 41-Column 20, line 1).

Regarding Claim 42, Nova et al. disclose the device wherein the substrate comprises a magnetic medium (Column 57, lines 14-27).

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Regarding Claim 43, Nova et al. disclose the device wherein the substrate comprises an optical medium (Column 57, lines 14-27).

Regarding Claim 44, Nova et al. disclose the device wherein the surface having moieties attached thereto opposes a surface on which the information is located (Column 42, lines 42-45 and Fig. 25).

Regarding Claim 45, Nova et al. disclose a device comprising a substrate having a surface adapted for attachment to a plurality of molecular moieties and containing machine-readable information relating to the moieties (Column 42, lines 34-45). Nova et al are silent regarding the substrate containing no less than 1 kilobyte of machine readable information. However, machine readable disk substrates comprising no less 1 kilobyte of data were well known in the art at the time the claimed invention was made as taught by Virtanen (Column 4, lines 13-35) who teach that the disk device provides for high density information and analyte detection utilizing disk readers known in the art (Column 5, lines 14-27 and Fig. 11). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the more than one kilobyte of data taught by Vertanen to the disk of Nova et al for the obvious benefits of providing a large amount of data readable utilizing readily available disk readers as taught by Vertanen (Column 5, lines 14-27).

Regarding Claim 46, Nova et al. disclose the device wherein the machine readable information is located on a surface of the substrate that is noncoplanar with respect to the surface adapted for attachment to a plurality of moieties (Column 42, lines 42-45).

Regarding Claims 47 and 48 Nova et al. disclose the device wherein the moieties attached to the surface are detectable through a signal having the same form as the machine-readable information i.e. reflected light (Column 43, line 60-Column 44, line 19). The functional language "is detectable through a signal having the same form as the machine-readable" (Claim 44) and "wherein the signal form is fluorescence" (Claim 45) does not further limit the structural limitations of the device. Therefore, Nova et al. disclose the device as claimed.

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Regarding Claim 50, Nova et al. disclose the device wherein the noncoplanar surface opposes the surface adapted for attachment to a plurality of moieties (Column 42, lines 42-45 and Fig. 25).

Regarding Claim 91, Nova et al. disclose the device wherein the information is in a discrete region from the surface having the moieties (Column 42, lines 42-45).

Regarding Claim 92, Nova et al. disclose the device wherein the information is in a discrete region from the surface having the moieties (Column 42, lines 42-45).

Regarding Claim 93, Nova et al. disclose the device wherein the machine readable information is located on a surface of the substrate that is noncoplanar with respect to the surface adapted for attachment to a plurality of moieties (Column 42, lines 42-45).

Regarding Claim 94, Nova et al. disclose the device wherein the machine readable information is located on a surface of the substrate that is noncoplanar with respect to the surface adapted for attachment to a plurality of moieties (Column 42, lines 42-45).

Regarding Claim 95, Nova et al. disclose the device wherein the substrate comprises a cartridge (Column 42, lines 33-67 and Fig. 23-27).

### **Conclusion**

9. No claim is allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones can be reached on (703) 308-1152. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.




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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.



BJ Forman, Ph.D.  
Patent Examiner  
Art Unit: 1634  
March 27, 2003